# National Transportation Safety Board
# Aviation Accident Final Report

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| **Location:** | LANCASTER, OH | **Accident Number:** | NYC94LA122 |
| **Date & Time:** | 07/13/1994, 1415 EDT | **Registration:** | N800CE |
| **Aircraft:** | PIPER PA-46-350P | **Aircraft Damage:** | Destroyed |
| **Defining Event:** | | **Injuries:** | 2 Minor, 3 None |
| **Flight Conducted Under:** | Part 91: General Aviation - Business | | |

## Analysis

THE AIRPLANE WAS ON TAKEOFF CLIMB, ABOUT 400 FEET ABOVE THE GROUND, WHEN THE ENGINE PARTIALLY AND THEN TOTALLY LOST POWER. THE PILOT DID A FORCED LANDING IN A BEAN FIELD. THE FLIGHT OCCURRED FOLLOWING MAINTENANCE TO CHECK A LOW MANIFOLD PRESSURE CONDITION. ACCORDING TO THE PILOT, A 'FULL' ENGINE RUNUP WAS DONE BEFORE TAKEOFF. HE STATED: 'THE TAKEOFF WAS SMOOTH, WE ROTATED AT AN AIRSPEED OF SLIGHTLY MORE THAN 80 KNOTS. THE CLIMB FOR THE FIRST 350 (FEET OF ALTITUDE), AIRSPEED WAS ROUTINE...I FELT A POWER LOSS AND NOTICED THE MAINFOLD PRESSURE DROPPING. AT THIS POINT I FELT I HAD ENOUGH POWER TO RETURN TO THE AIRPORT...AS THE TURN WAS BEING COMPLETED, POWER WENT OUT COMPLETELY.' THE POST-ACCIDENT EXAMINATION OF THE AIRPLANE DID NOT DISCLOSE EVIDENCE OF MECHANICAL MALFUNCTION.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The loss of engine power for undetermined reasons.

## Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. REASON FOR OCCURRENCE UNDETERMINED
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Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING

Findings
2. TERRAIN CONDITION - CROP

## Factual Information

On July 13, 1994, at 1415 eastern daylight time, a Piper PA- 46-350P, N800CE, owned and operated by Charles A. Eagle, of Johnston, Iowa, lost power after takeoff at Lancaster, Ohio, and made a forced landing. There was a post crash fire and the airplane was destroyed. The pilot and one passenger received minor injuries. Three passengers were not injured. Visual meteorological conditions prevailed and Instrument Flight Rules (IFR) flight plan had been filed but not opened. The flight was operated under 14 CFR Part 91.

On June 24, 1994, maintenance was performed on the airplane for low manifold pressure. The condition was not corrected. The work order stated in part, "...M/P still low at 37.5" pilot elected to fly aircraft...." The airplane was operated by the pilot. According to the pilot additional maintenance on July 5, 1994, failed to correct the problem. The pilot continued to operate the airplane.

In the NTSB Accident Report, the pilot reported the airplane engine would reach 38 inches of manifold pressure. On the accident flight, he reported the takeoff was normal until:

...At close to 400 feet I felt a power loss and noticed the manifold pressure dropping. At this point I felt I had enough power to return to the airport. We entered about a 15 degree bank left turn in an effort to maintain altitude. As the turn was being completed, power went out totally. In this area there were a number of trees; thus we headed for the nearest wide-open area, a bean field...On the way down, the aircraft had an unusual shimmy...the aircraft was on fire upon impact. It skidded over 700 feet and caught the right wing and flipped...There was an opening of approximately half the emergency door exit. We evacuated....

A witness reported the airplane was turning in a shallow bank when:

...the aircraft's left wing suddenly rolled through 70 or 80 degrees of bank with a nose down attitude of 20 degrees. At approximately 75 feet above ground level the nose of the airplane began to come through level flight and the angle of bank had been decreased to about 5 to 10 degrees...The aircraft, before disappearing from my sight was still in a slight left wing down position and the nose of the aircraft was above the horizon....

A teadown of the engine at Textron Lycoming failed to find any evidence of failure or malfunction. The turbochargers were forwarded to Allied Signal. According to their report, "...The teardown and examination of both turbochargers disclosed that both turbochargers appeared capable of normal operation...."

According to the Sea Level/Altitude Performance Curve, the Lycoming TIO-540-AE2A engine would develop approximately 310 horse power at 900 feet MSL, with 38 inches of manifold pressure.

Examination of the Piper PA-46-350P Pilot's Operating Handbook found that all takeoff performance charts were predicated upon 2500 RPM and full throttle. According to the Maximum Manifold Pressure vs Pressure Altitude chart, takeoff power (42 inches) is obtainable to above 20,000 ft. No takeoff performance charts were found for reduced manifold pressure (less than 42 inches).

Using weights supplied by the pilot, and the airplane weight and balance delivery documents, the airplane was computed to have a weight of 4396 lbs at takeoff. The maximum

allowable takeoff weight was 4300 lbs.

According to a letter from the Des Moines, Iowa, Flight Standards District Office, the airplane was verbally released for return to service. According to 14 CFR Part 43, a maintenance return to service is required to be written. No evidence of a written release was found.

## Pilot Information

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| **Certificate:** | Private | **Age:** | 57, Male |
| **Airplane Rating(s):** | Single-engine Land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | Seatbelt, Shoulder harness |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | No |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 2 Valid Medical--w/ waivers/lim. | **Last FAA Medical Exam:** | 07/14/1993 |
| **Occupational Pilot:** | | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 3300 hours (Total, all aircraft), 2400 hours (Total, this make and model) | | |

## Aircraft and Owner/Operator Information

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| **Aircraft Make:** | PIPER | **Registration:** | N800CE |
| **Model/Series:** | PA-46-350P PA-46-350P | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | No |
| **Airworthiness Certificate:** | Normal | **Serial Number:** | 4622020 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 6 |
| **Date/Type of Last Inspection:** | 01/04/1994, Annual | **Certified Max Gross Wt.:** | 4300 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 1 Reciprocating |
| **Airframe Total Time:** | | **Engine Manufacturer:** | LYCOMING |
| **ELT:** | Installed | **Engine Model/Series:** | TIO-540-AE2A |
| **Registered Owner:** | BUDGET MARKETING INC. | **Rated Power:** | 350 hp |
| **Operator:** | CHARLES A. EAGLE | **Operating Certificate(s) Held:** | None |

## Meteorological Information and Flight Plan

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| **Conditions at Accident Site:** | Visual Conditions | **Condition of Light:** | Day |
| **Observation Facility, Elevation:** | , 0 ft msl | **Distance from Accident Site:** | 0 Nautical Miles |
| **Observation Time:** | 0000 | **Direction from Accident Site:** | 0° |
| **Lowest Cloud Condition:** | Clear / 0 ft agl | **Visibility** | 20 Miles |
| **Lowest Ceiling:** | None / 0 ft agl | **Visibility (RVR):** | 0 ft |
| **Wind Speed/Gusts:** | 7 knots / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | 90° | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | | **Temperature/Dew Point:** | 25°C |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | | **Type of Flight Plan Filed:** | IFR |
| **Destination:** | DES MOINES, IA (DSM) | **Type of Clearance:** | None |
| **Departure Time:** | 1415 EDT | **Type of Airspace:** | Class G |

## Wreckage and Impact Information

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| **Crew Injuries:** | 1 Minor | **Aircraft Damage:** | Destroyed |
| **Passenger Injuries:** | 1 Minor, 3 None | **Aircraft Fire:** | On-Ground |
| **Ground Injuries:** | N/A | **Aircraft Explosion:** | None |
| **Total Injuries:** | 2 Minor, 3 None | **Latitude, Longitude:** | |

## Administrative Information

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| **Investigator In Charge (IIC):** | ROBERT L HANCOCK, | **Report Date:** | 01/26/1995 |
| **Additional Participating Persons:** | JAY WILKINS; COLUMBUS, OH<br>JIM BROWN; WILLIAMSPORT, PA<br>STEVE MACON; PHOENIX, AZ | | |
| **Publish Date:** | | | |
| **Investigation Docket:** | NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/. | | |